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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,074	06/04/2001	Amaneh Tasooji	H0001338	6205

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Honeywell International, Inc.
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EXAMINER

HOLMES, MICHAEL B

ART UNIT	PAPER NUMBER
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2121

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DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/874,074

Applicant(s)

TASOOJI ET AL.

Examiner

Michael B. Holmes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 3-4, 6, & 9-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.



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Examiner's Detailed Office Action

1. This office action is responsive to application **09/874,074**, filed **June 04, 2001**.
2. **Claims 1-12** have been examined.

Information Disclosure Statement

3. Examiner acknowledges applicants' submission of prior art and information disclosure. Nevertheless, applicant is respectfully remind of the ongoing Duty to disclose 37 C.F.R. 1.56 all pertinent information and material pertaining to the patentability of applicant's claimed invention, by continuing to submitting in a timely manner PTO-1449, Information Disclosure Statement (IDS) with the filing of applicant's of application or thereafter.

Drawings

4. The formal drawings have been reviewed by the United States Patent & Trademark Office of Draftperson's Patent Drawings Review.

Specification

5. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is required in correcting any errors of which applicant may become aware in the specification.

Claim Objection

6. Claim 3-4, 6, & 9-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Interpretation

7. Office personnel are to give claims their "**broadest reasonable interpretation**" in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See *also *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow. . . . The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed. . . . An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be

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removed, as much as possible, during the administrative process.”). *see* MPEP § 2106

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. **Claims 1-2, 5, & 7-8** are rejected under 35 U.S.C. 102(b) as being anticipated by **Sandeep S. Mulgund and Greg L. Zacharias (hereinafter referred to as “*Mulgund et al.*”), “A Situation-Driven Adaptive Pilot/Vehicle Interface” (1996), IEEE.**

Regarding claim 1:

Mulgund et al. teaches,

An Adaptive Knowledge Management System for assisting a user with decision making by providing real-time, on-line automated recommendations for actions in a monitored vehicle troubleshooting, performance trend monitoring, health management and preemptive maintenance domain diagnostics and prognostics, comprising:

a Structured Knowledge Repository constructed from models, historical data, and heuristics for organizing a model domain knowledge; [(**System Architecture, Overview**, page 197, right col., second paragraph, “*The Display configuration and adaptation strategy (DCAS) takes the pilot state indicator ... provide rule-based guidance on how to adapt the PVI to a given situation.*”)]
a plurality of Analytical and Machine Learning tools capturing knowledge from data sources and

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populating cells of the Structured Knowledge Repository; [(Multi-Modal Adaptive Displays, page 196, *"There have been a number of efforts addressing the potential of multi-modal interfaces in the cockpit, ...the PVI control module could get the pilot's attention by alerting the control stick's force gradient."*)]

a Mixed-Initiative Planning module interpreting operation goals for the monitored vehicle and utilizing the Structure Knowledge Repository for developing recommendations for user decision making; [(System Architecture, Overview, page 197, right col., second paragraph, *"The Display configuration and adaptation strategy (DCAS) takes the pilot state indicator ... provide rule-based guidance on how to adapt the PVI to a given situation."*) & (Figure 4; page 197, right col. *"Figure 4 illustrates in simplified form how the elements of human performance modeling ... the expert system should observe the guidelines of S-C-R compatibility."*)] and

a plurality of Mixed-initiative Decision Support tools using a feedback from the Mixed-Initiative Planning module and querying the Structured Knowledge Repository for incorporating the extracted knowledge and information into outputs dealing with current issues and contingencies.

[Figure 3; Detailed System Architecture (System Architecture, Overview, page 196-197, *"Figure 3 presents an expanded view of the PVI control module. ...Auditory cueing could take the form of synthesizing speech alerts, warning tones, or 3-D localized sounds.)* & (System Architecture, Overview, page 197, right col., second paragraph, *"The Display configuration and adaptation strategy (DCAS) takes the pilot state indicator ... provide rule-based guidance on how to adapt the PVI to a given situation."*) & (Figure 4; page 197, right col. *"Figure 4 illustrates in simplified form how the elements of human performance modeling ... the expert system should observe the guidelines of S-C-R compatibility."*)]

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Regarding claim 2:

Mulgund et al. teaches,

The system according to Claim 1, wherein the Analytical and Machine Learning tools use a machine learning technique appropriate for the data source to extract information, with the technique being symbolic, empirical, or hybrid, domain-dependent or domain-independent, and run in supervised or unsupervised modes. [(**Background**, *Human Performance Limitations*, right col., page 194 “*Any PVI Adaptation Strategy should be founded on a coherent model of human capabilities and limitations. ... When the PVI modifies display modalities, it should have minimal adverse impact on the competition for the pilot’s resources.*”) & (“**Situation Assessment Modeling**, *Belief Networks for Situation Assessment Modeling*, right col., page 194 “*A computational model of SA requires a technology that ...quantified by a conditional probability matrix associated with the link.*”)]

Regarding claim 5:

Mulgund et al. teaches,

The system according to Claim 1, wherein the Mixed-Initiative Planning module further includes creating predictions of behavior models through correlation and pattern recognition, and developing a prioritization scheme using artificial intelligence runs prioritization techniques. [(“**Situation Assessment Modeling**, *Belief Networks for Situation Assessment Modeling*, right col., page 194 “*A computational model of SA requires a technology that ...quantified by a conditional probability matrix associated with the link.*”)]

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Regarding claim 7:

Mulgund et al. teaches,

A method usable in an Adaptive Knowledge Management System for assisting a user with decision making by providing real-time, on-line automated recommendations for actions in a monitored vehicle troubleshooting, performance trend monitoring, health management and preemptive maintenance domain diagnostics and prognostics, comprising the following steps:

(a) constructing a Structured Knowledge Repository from models, historical data, and heuristics for organizing a model domain knowledge; [(**System Architecture, Overview**, page 197, right col., second paragraph, "*The Display configuration and adaptation strategy (DCAS) takes the pilot state indicator ... provide rule-based guidance on how to adapt the PVI to a given situation.*")]

(b) using a plurality of Analytical and Machine Learning tools for capturing knowledge from data sources and populating cells of the Structured Knowledge Repository; [(**Multi-Modal Adaptive Displays**, page 196, "*There have been a number of efforts addressing the potential of multi-modal interfaces in the cockpit, ...the PVI control module could get the pilot's attention by alerting the control stick's force gradient.*")]

(c) using a Mixed-Initiative Planning module for interpreting operation goals for the monitored vehicle and utilizing the Structure Knowledge Repository for developing recommendations for user decision making; [(**System Architecture, Overview**, page 197, right col., second paragraph, "*The Display configuration and adaptation strategy (DCAS) takes the pilot state indicator ... provide rule-based guidance on how to adapt the PVI to a given situation.*") & (**Figure 4; page 197, right col.** "*Figure 4 illustrates in simplified form how the elements of human performance*

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modeling ... the expert system should observe the guidelines of S-C-R compatibility.”)]and

(d) using a plurality of Mixed-initiative Decision Support tools for utilizing a feedback from the Mixed-Initiative Planning module and querying the Structured Knowledge Repository, for incorporating the extracted knowledge and information into outputs dealing with current issues and contingencies. [Figure 3; Detailed System Architecture (System Architecture, Overview, page 196-197, “Figure 3 presents an expanded view of the PVI control module. ...Auditory cueing could take the form of synthesizing speech alerts, warning tones, or 3-D localized sounds.) & (System Architecture, Overview, page 197, right col., second paragraph, “The Display configuration and adaptation strategy (DCAS) takes the pilot state indicator ... provide rule-based guidance on how to adapt the PVI to a given situation.”) & (Figure 4; page 197, right col. “Figure 4 illustrates in simplified form how the elements of human performance modeling ... the expert system should observe the guidelines of S-C-R compatibility.”)]

Regarding claim 8:

Mulgund et al. teaches,

The method according to Claim 7, wherein the step of using the Analytical and Machine Learning tools includes using a machine learning technique appropriate for the data source to extract information, with the technique being symbolic, empirical, or hybrid, domain dependent or domain independent, and run in supervised or unsupervised modes. [(Background, Human Performance Limitations, right col., page 194 “Any PVI Adaptation Strategy should be founded on a coherent model of human capabilities and limitations. ... When the PVI modifies display modalities, it should have minimal adverse impact on the competition for the pilot’s resources.”)]

& (“**Situation Assessment Modeling**, *Belief Networks for Situation Assessment Modeling*, right col., page 194 “*A computational model of SA requires a technology that ...quantified by a conditional probability matrix associated with the link.*”)]

Conclusion

10. The prior art made of record and (listed of form **PTO-892**) not relied upon is considered pertinent to applicant's disclosure as follows. Applicant or applicant's representative is respectfully reminded that in process of patent prosecution i.e., amending of claims in response to a rejection of claims set forth by the Examiner per Title 35 U.S.C. The patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and any objections made. Moreover, applicant or applicant's representative must clearly show how the amendments avoid or overcome such references and objections. *See 37 CFR § 1.111(c).*

Correspondence Information

11. Any inquiries concerning this communication or earlier communications from the examiner should be directed to **Michael B. Holmes** who may be reached via telephone at **(703) 308-6280**. The examiner can normally be reached Monday through Friday between 8:00 a.m. and 5:00 p.m. eastern standard time.

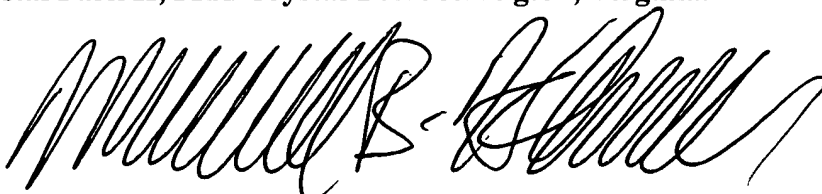
If you need to send the Examiner, a facsimile transmission regarding After Final issues, please send it to **(703) 746-7238**. If you need to send an Official facsimile trans-

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mission, please send it to (703) 746-7239. If you would like to send a Non-Official (draft) facsimile transmission the fax is (703) 746-7240. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Anthony Knight, may be reached at (703) 308-3179.

Any response to this office action should be mailed too:

Director of Patents and Trademarks Washington, D.C. 20231. Hand-delivered responses should be delivered to the Receptionist, located on the fourth floor of Crystal Park II, 2121 Crystal Drive Arlington, Virginia.

A handwritten signature in black ink, appearing to read 'Michael B. Holmes', with a stylized, cursive script.

Michael B. Holmes

Patent Examiner

Artificial Intelligence

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